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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,307	02/22/2005	Mitsuhiro Yuasa	101246.55967US	5980

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CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

THOMAS, JONATHAN B

ART UNIT	PAPER NUMBER
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3766

MAIL DATE	DELIVERY MODE
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02/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,307	Applicant(s) YUASA, MITSUHIRO	
	Examiner JONATHAN B. THOMAS	Art Unit 3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/16/2005, 2/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities: The claim appears to be missing the word wherein as was amended into all other claims. Appropriate correction is required. For the purposes of this action this claim will be treated as if the claim read "The artificial ear according to claim 7, wherein said plurality of resonators are arranged on both sides of said support shaft."

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hochmair 4,357,497 in view of Seidel 4,885,781.

4. Regarding claim 1, Hochmair teaches a sending unit configured to convert a sound having a predetermined frequency into an electric signal and send the electric signal (Col. 4 ll. 48-68); and a reception unit configured to receive the sent electric signal and apply it to a predetermined nerve in a cochlea (Col 4 ll. 25-47)), wherein said sending unit includes:

Art Unit: 3766

a sending section configured to send a predetermined signal among signals converted by said conversion section to said reception unit (Col 4 ll. 48-68) and said receiving unit includes:

a plurality of electrodes which are connected to nerves present in the cochlea and each corresponding to different frequencies from each other (Col 6 ll. 57 – Col 7 ll. 14); and a supply section configured to supply a signal supplied from said sending section to a predetermined electrode among said plurality of electrodes thereby stimulating a nerve corresponding to a predetermined frequency (Col 7 ll. 15 - 30).

5. Hochmair does not teach the following claimed limitations taught by Seidel: A sending unit as above that includes:

a plurality of resonators 2.1, 2.2, and 2.3 which have resonant frequencies different from each other and vibrate with sounds having same frequencies as the resonant frequencies (Col 2 ll. 43-53); a conversion section configured to convert vibration of each of said plurality of resonators into a signal corresponding to level of the vibration (Col 2 ll. 19-27);

and said plurality of resonators have their ends at one side held independent from each other Fig 2.

6. It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the invention of Hochmair in view of Seidel in order to convert sound waves from the air into electrical signals directly (Seidel Col 1 ll. 40-42).

Art Unit: 3766

7. Regarding claim 2, Hochmair teaches an amplifying section configured to amplify a signal converted by said conversion signal by a gain which varies in accordance with the respective resonant frequencies possessed by said plurality of resonators (Col 10 ll. 55 – Col 11 ll. 6).

8. Regarding claim 3, Hochmair teaches a first selection section configured to select a signal to be sent to said reception unit from signals amplified by said amplifying section 50.

9. Regarding claim 4, Hochmair teaches a second selection section configured to select an electrode to which said signal from said sending section is to be supplied (Col 4 ll. 25 – 47 wires conduct signals to the electrodes).

10. Regarding claim 5, Hochmair and Seidel teach the apparatus as discussed above however they do not teach that said sending section sends a start signal representing a start of operation by said first selection section and an end signal representing an end of operation by said first selection section to said reception unit in order to synchronize selection operations of said first selection section and second selection section with each other and said second selection starts operating in response to the start signal and finishes operating in response to the end signal.

11. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to synchronize the transmission as discussed above. One of ordinary skill in the art, furthermore, would have expected the applicant's start and end signaling technique to work equally well with any other

Art Unit: 3766

enablement mechanism because both would perform the same function of controlling the operation of the device.

12. Therefore, it would have been prima facie obvious to modify Hochmair and Seidel to obtain the invention as specified in claim 5 because such a modification would have been considered a mere design consideration which fails to patentably distinguish over the prior art of Hochmair and Seidel.

Regarding claim 5, further the examiner takes official notice that it was well known in the art to operate synchronized transmission and reception units in cochlear implant devices.

13. It would have been obvious to a person having ordinary skill in the art to modify the invention of Hochmair and Seidel with synchronized transmitting and receiving in order to transmit the information with the least errors.

14. Regarding claim 6, Hochmair teaches a storage section configured to store gains for the respective resonant frequencies possessed by said plurality of resonators (Col 2 ll. 44-53 the design of the bandpass filters establishes the storing of these gains).

15. Regarding claim 7, Seidel further teaches said plurality of resonators have their ends at the other side connected to a support shaft and supported by said support shaft Fig 2.

16. Regarding claim 8, Seidel further teaches said plurality of resonators are arranged on both sides of said support shaft Fig 2.

17. Regarding claim 9, Seidel further teaches said plurality of resonators have different lengths from each other and are arranged on said support shaft in an order of a

Art Unit: 3766

larger length to a smaller length from one end toward the other end of said support shaft

Fig 2.

18. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-502088 A in view of JP 61-170457 in further view of JP 11-160143. See IPER for detailed explanation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN B. THOMAS whose telephone number is (571)270-3082. The examiner can normally be reached on Mon-Fri 9:30-9 EST.

Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Layno can be reached on 5712724949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3766

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JBT

1/03/2008

/Mark W Bockelman/
Primary Examiner, Art Unit 3766